

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A gallium nitride-based semiconductor device having a p-type layer that is a gallium nitride compound semiconductor layer containing a p-type impurity and exhibiting p-type conduction, wherein the p-type layer comprises a top portion and an inner portion located under the top portion ~~and~~, wherein the inner portion contains the p-type impurity element and, in combination therewith, hydrogen, and wherein the top portion of the p-type layer has a hydrogen content that is less than the amount of the hydrogen contained in the inner portion.

2. (original): A gallium nitride-based semiconductor device according to claim 1, wherein the p-type impurity is incorporated in the p-type layer by means of doping or ion injection.

3. (previously presented): A gallium nitride-based semiconductor device according to claim 1, wherein the inner portion of the p-type layer has a ratio of atomic concentration of the hydrogen to that of the p-type impurity of about 1:1.

4. (previously presented): A gallium nitride-based semiconductor device according to claim 1, wherein the inner portion of the p-type layer has a percent thickness of 40% to 99.9% with respect to a total thickness of the p-type layer.

5. (original): A gallium nitride-based semiconductor device according to claim 4, wherein the inner portion of the p-type layer has a percent thickness of 70% or more with respect to the total thickness of the p-type layer.

6. (previously presented): A gallium nitride-based semiconductor device according to claim 1, wherein the top portion of the p-type layer has a hydrogen content that is $1/3$ or less the amount of the hydrogen contained in the inner portion.

7. (previously presented): A gallium nitride-based semiconductor device according to claim 1, wherein the top portion of the p-type layer has a hydrogen content that is $1/2$ or less the amount of the hydrogen contained in the inner portion.

8. (previously presented): A gallium nitride-based semiconductor device according to claim 1, wherein the top portion of the p-type layer has a hydrogen content that is $2/3$ or less the amount of the hydrogen contained in the inner portion.

9. (canceled).